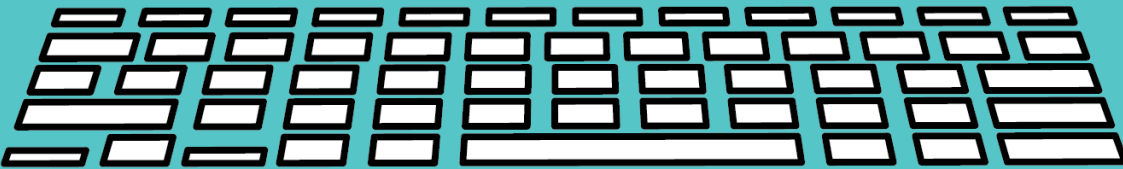
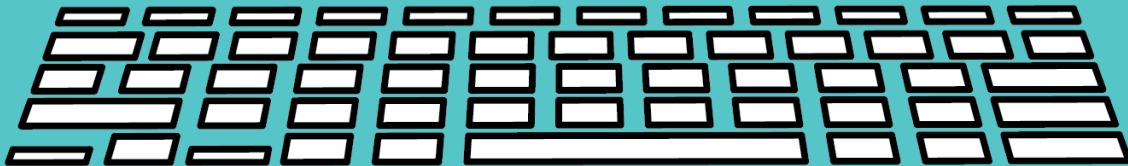


THE UNIT USED
TO MEASURE
THE STRENGTH
OF A MAGNET
IS CALLED A
TESTA

Short Answer	Type Answer Here
1. What current is found in the outlets of a house?	
2. What does DC stand for in electricity?	
3. Does a proton have a positive or negative charge?	
4. What has a needle that lines up to the poles of the Earth?	
5. At the center of the Earth is iron and what other metal?	
6. What is a type of electricity you can see?	
7. How many ends do magnets have?	
8. What is the center of an atom called?	



Short Answer	Type Answer Here	Fill in the Blank	Type Answer Here
1. What current is found in the middle of an atom?		9. Electricity is a form of energy coming from ____.	
2. What does DC stand for in electricity?		10. A ____ is something that causes a push or pull.	
3. Do all protons have a positive or negative charge?		11. The ____ is what the electricity will power (like a light bulb).	
4. What has a needle that lines up to the poles of the Earth?		12. The ____ are responsible for electricity.	
5. At the center of the Earth is iron and what other metal?		13. All magnetic objects are made of ____.	
6. What is a type of electricity you can see?		14. ____ 2 types of electricity are ____ and electric currents.	
7. How many ends do magnets have?		15. ____ magnets cause an electric current.	
8. What is the center of an atom called?		16. DC stands for direct current and AC stands for ____ current.	



ELECTRICITY AND MAGNETISM

Electricity and magnetism are closely related in science. Both are essential for nearly every gadget, appliance, vehicle, or machine.

Electricity is a form of energy that comes from atoms. There are billions of atoms in everything around us. Each atom has a proton (positive charge), a neutron (no charge), and an electron (negative charge). Protons and neutrons are stuck in the nucleus (center) of the atom. However, electrons float out in orbitals. The protons' positive charge keeps the electrons from leaving the atom. The moving electrons are responsible for electricity.

Sometimes electrons combine to another atom with a specific force. This is called electricity when many atoms do this together and electrons move from one atom to another in the same direction. So, electricity is the flow of electrons.

Electricity isn't something you see, with one exception. When electrons move from one place to another very quickly, a spark or lightning is called lightning. But most electricity flows throughout your town and in your home.

There are two types of electricity: static electricity and electric currents. Electric currents also have two types: direct (DC) and alternating (AC). Direct current is the kind of electricity caused by batteries. Alternating current is the electricity found in the outlets of a house.

To make electricity, you must have an electric circuit. For instance, you complete the electric circuit when you flip a light switch in your house. This allows the electrons and electricity to flow through the light bulb and turn on. To have a circuit, you need the following:

- Power source - like a battery or wall outlet
- Conductor - wires that carry the electricity from place to place
- Load - what the electricity will power, like a light bulb
- Switch - the item or switch that connects the circuit to start

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the electricity flowing

Magnetism is an invisible force or field created when a rock or piece of metal can pull or attract other metals. It can also be the repulsion of magnets, meaning it can push magnets apart. A force is something that causes a push or pull. A typical example of a force is gravity, which keeps things from floating off the ground.

Most things that have electricity or a motor have magnets in them. For example, magnets help a car run, cook food in a microwave, and make a computer work. Usually, objects' electrons spin in random directions. However, with magnets, the molecules are arranged so the electrons spin in the same direction.

The Earth is a magnet, too. At the center of the Earth is iron and nickel. Both of these elements are attracted to magnets and can become magnets. As Earth revolves in space, the metal core also spins. As a result, a magnetic field is created around Earth.

Magnetic fields surround a magnet, no matter the size. Magnetic objects are attracted to magnets. While all magnetic objects are made of metal, not all metals are magnetic. The most common metals that magnets attract are iron, steel, and nickel. When a magnetic object enters a magnetic field, it gets pulled toward the object. Magnets even work under water through surfaces like a table or door.

Magnets have two ends - a north pole and a south pole, just like

A compass needle made of metal that spins to line up with the poles of Earth. If two magnets are close together, the north pole of one magnet will attract (pull) the south pole of the other magnet. If you put two north poles of a magnet together, they repel each other. Just like two like poles of a magnet. Opposites attract.

Sometimes magnets are created when electrons are flowing. Electrons produce a magnetic field. When many magnets cause an electric current. For example, a magnetic field can be created if you wrap a wire around an iron bar and a current through the wire. When electricity and magnetism work together, it is called electromagnetism.

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